

## **Abstract**

Animal reproduction involves energy expenditures for gamete formation, support of offspring development, and associated behavioural changes. Due to high variability in reproductive traits, reptiles are the ideal study group for this field. Investment in reproductive organs and gametes represent costs of sex products production. The next phase of reproduction is gestation, when females support their developing offspring, which results in additional metabolic costs. Metabolism of pregnant female can be viewed as a sum of resting metabolism, which is the same as in non-pregnant animal, of increased metabolism to support pregnancy, and of embryonic metabolism. Separation of each component is crucial for assessing energy costs of reproduction and for comparison of different reproductive strategies. Certain behavioural changes during reproduction can influence total energy balance as well. These changes include increased locomotion costs or shifts in the thermoregulatory behaviour. Estimation of the real costs of reproduction is a complex matter since a reproduction is a very dynamic process and there are many issues that influence the overall energy consumption of reproducing individuals.